

**DETAILED ACTION**

***Response to Amendment***

1. Applicant's amendment filed on June 22, 2009 has been considered. Claims 1-4, 6-12, 24-79, 87-95, 97 and 101 are cancelled. Claims 5, 13-23, 80-86, 96 and 98-100 are active.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 81 and 82 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 81, it is unclear as to how the second unit operation can be "selected from the group consisting of distilling, reacting, adsorbing, compressing, expanding, separating, absorbing, vaporizing, condensing, and combinations of these" (lines 22-24), since the claim further recites that "the second flow path contains a catalyst and an endothermic reaction is conducted in the second flow path" (lines 29-30).

Regarding claim 82, "the first flow path" (see the last line) lacks proper positive antecedent basis.

***Allowable Subject Matter***

3. Claims 5, 13-23, 80, 83-86, 96 and 98-100 are allowable, for the same reasons set forth in the previous Office Action. Claims 81 and 82 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

***Response to Arguments***

4. Applicant's arguments with respect to the allowability of claims 81 and 82 have been considered but are moot in view of the new ground(s) of rejection, necessitated by amendment.

***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENNIFER A. LEUNG whose telephone number is (571) 272-1449. The examiner can normally be reached on 9:30 am - 5:30 pm Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter D. Griffin can be reached on (571) 272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jennifer A. Leung/  
Primary Examiner, Art Unit 1797